CALDERA

VisualCUT

Caldera Software

Caldera V9.10
October 2012

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Introduction

This document is the Caldera's VisualCUT user manual.

VisualCUT is an option for Caldera's Visual and Grand RIP software. It allows cut workflow management from files import into the RIP to print cut.
VisualCUT has been designed for Graphtec, Summa, Mimaki, Mutoh and Roland... roll cutters. VisualCUT will automatically set up cut marks for the specific device it is driving and guide the machine along the documents embedded contours.
VisualCUT even makes complex cutting easy thanks to the software's ability to manage multiple contours in one file.

Version
This manual is based on the Caldera V9.10 version.

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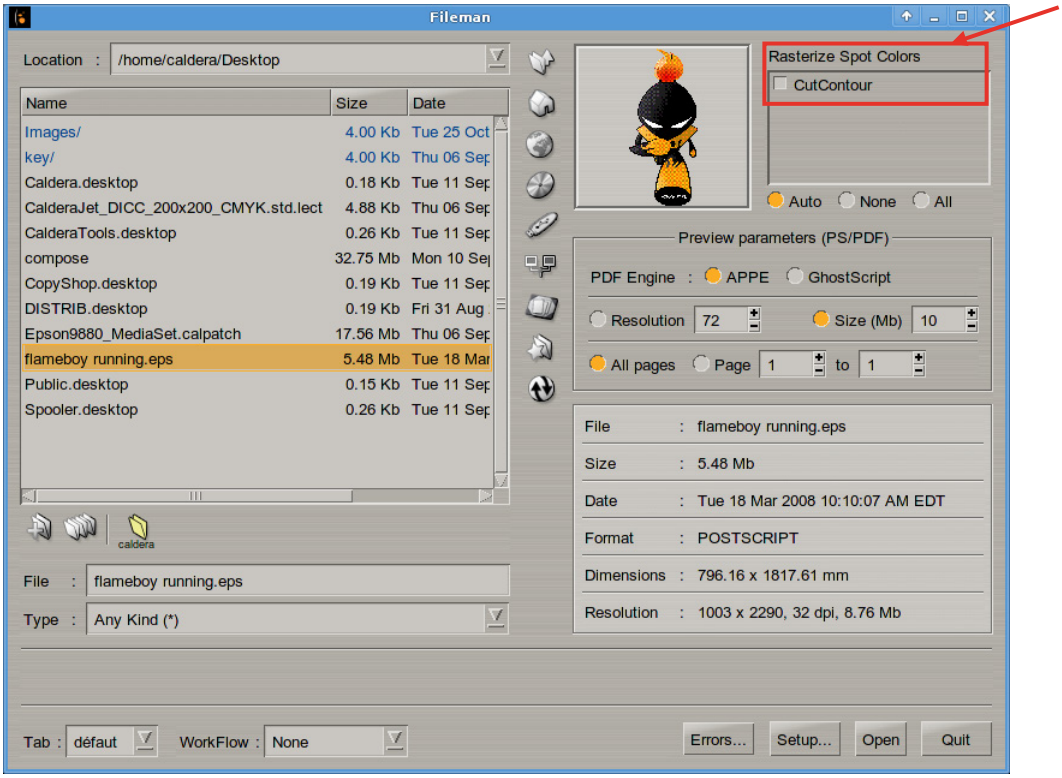
The cut workflow

Contours

Vector files with embedded contours

When loading a PS, EPS or PDF file, **Fileman** loads automatically all its vector paths during the preview process.
Fileman displays, before the import, the embedded spot colors and vector files (see below).
Each contour is linked to a spot color and has a particular name that is recognized by **Fileman**.
Be careful: do not check the box placed in front of your contours. There will be included into the image so you won't be able to use them for cutting anymore.


Fileman
Location : /home/caldera/Desktop
Name
Size
Date
Images/ 4.00 Kb Tue 25 Oct
key/ 4.00 Kb Thu 06 Sep
Caldera.desktop 0.18 Kb Tue 11 Sep
CalderaJet_DICC_200x200_CMYK.std.lect 4.88 Kb Thu 06 Sep
CalderaTools.desktop 0.26 Kb Tue 11 Sep
compose 32.75 Mb Mon 10 Sep
CopyShop.desktop 0.19 Kb Tue 11 Sep
DISTRIB.desktop 0.19 Kb Fri 31 Aug
Epson9880_MediaSet.calpatch 17.56 Mb Thu 06 Sep
flameboy running.eps 5.48 Mb Tue 18 Mar
Public.desktop 0.15 Kb Tue 11 Sep
Spooler.desktop 0.26 Kb Tue 11 Sep
caldera
File : flameboy running.eps
Type : Any Kind (*)
Rasterize Spot Colors
CutContour
Auto None All
Preview parameters (PS/PDF)
PDF Engine : APPE GhostScript
Resolution 72 Size (Mb) 10
All pages Page 1 to 1
File : flameboy running.eps
Size : 5.48 Mb
Date : Tue 18 Mar 2008 10:10:07 AM EDT
Format : POSTSCRIPT
Dimensions : 796.16 x 1817.61 mm
Resolution : 1003 x 2290, 32 dpi, 8.76 Mb
Tab : défaut
WorkFlow : None
Errors...
Setup...
Open
Quit

By default, only contours beginning with "CutContour" are recognized as contours but others names can be set up to be recognized as well.

Fileman: recognize others contour names

Follow the steps below to add a new contour name to Fileman.

1. In **Fileman**'s main window, click on the ***Setup...*** button to open the *setup* window.

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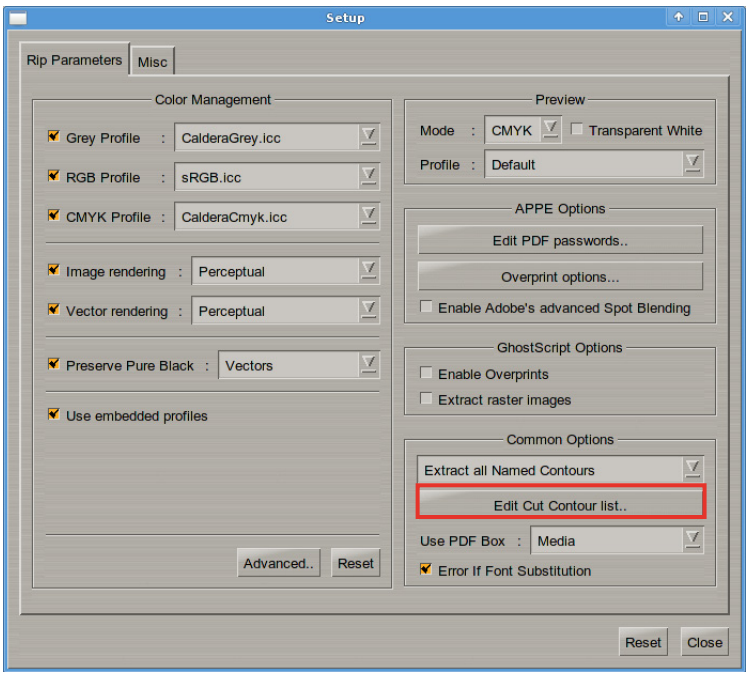
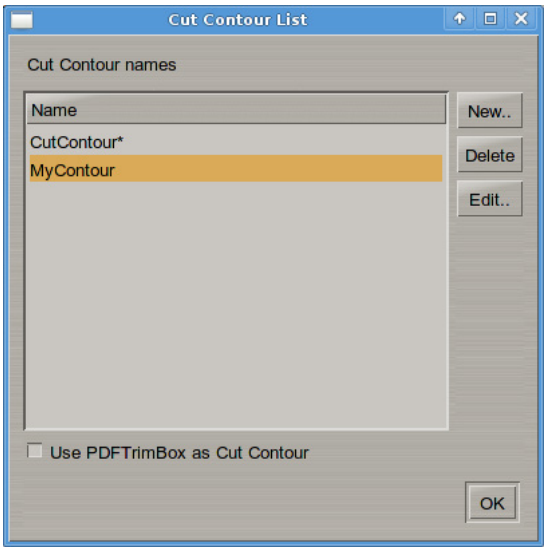
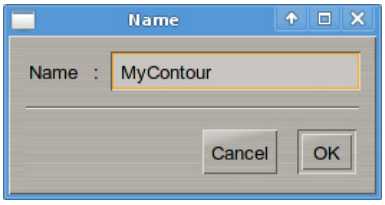


2. Then click on the ***Edit Cut Contour list...*** button. The *cut contour list* appears.



3. There, use the button on side to manage your contour list:
   - ***New...***: this button adds a contour to the list.
   - ***Delete***: this button removes a contour from the list.
   - ***Edit***: this button changes the contour name.

   If you type a name followed by a star "*", every contour which begins with this name will be recognized by **Fileman**.



Contour creation and edition window.

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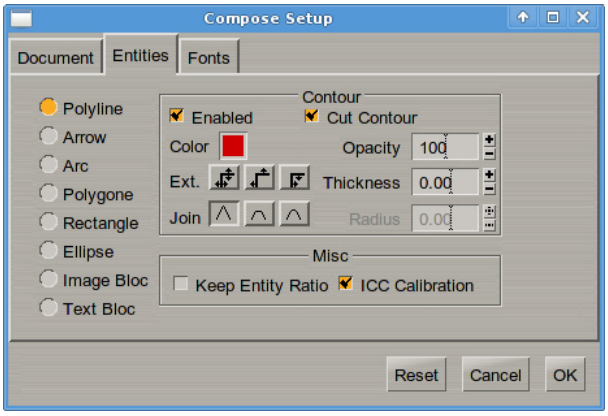
Contours created in Compose

The **Compose** module allows the user to create lines and objects for which cut contours can be created. Contours are defined in the *compose setup*: button ***Setup*** in the main window then tab Entities.

Cut contours cannot be created on fonts, only on text blocs.



Contours created in the **Compose** module can be defined as cutting paths. When different images are placed in a composition, their edges can also become cutting paths.

Non-embedded vector contours

When a contour is located in another file than the image itself, you can use **Compose** in order to make the contour to correspond to the image again.

Check contours contained in a file

You can check at any time if one of your images from your image bar contains cut files.

- If your image is marked with scissors it means that a cut contour has been recognized by Fileman during the import process.

- Opens the **Info** module:
  - Double-click on the info icon on the tool bar then drag and drop the image in it.
  - Drag and drop the image in the tool bar info icon.
  - Select the image then make a right-click and click on *About image*.
  - Select the image then use the shortcut "Alt+a".

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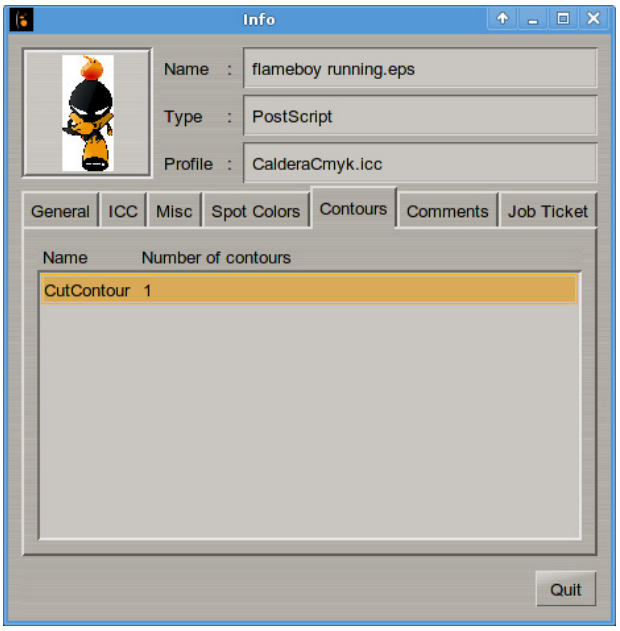
Then select the Contours Tab. There you can see the list of the contours included in your image. If no line is written, no contour is linked to the image.



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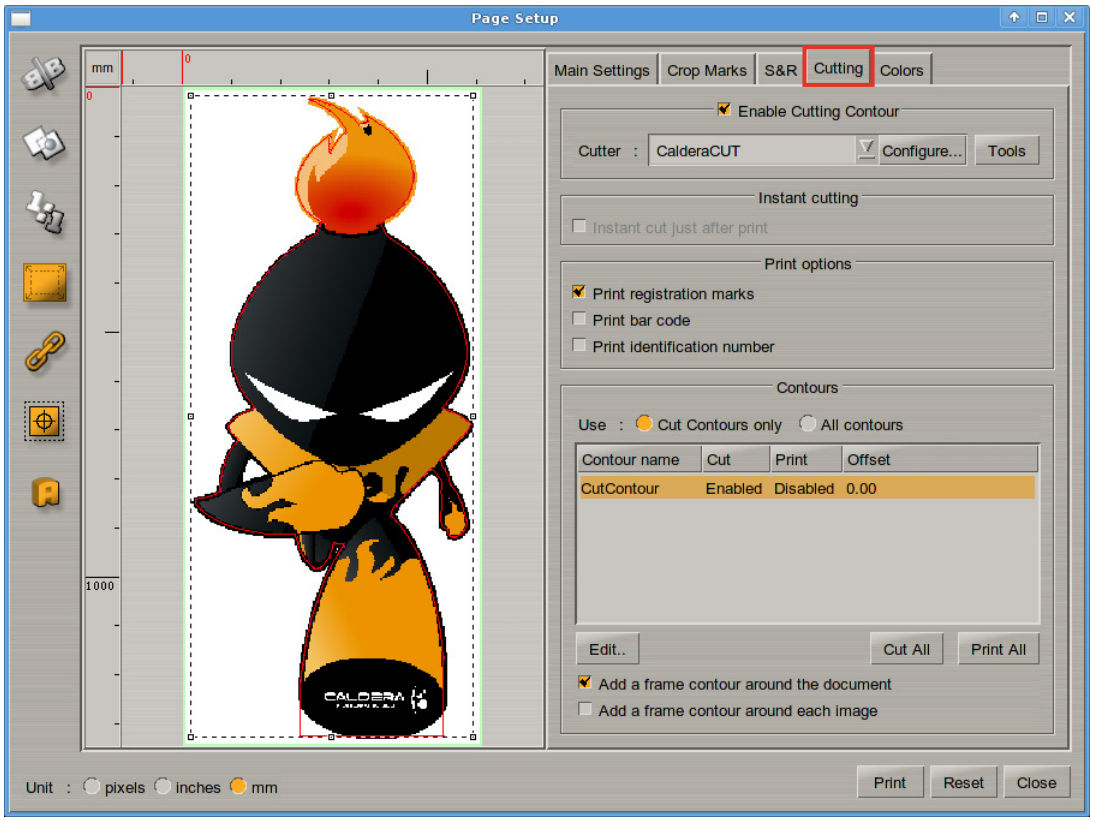
The print

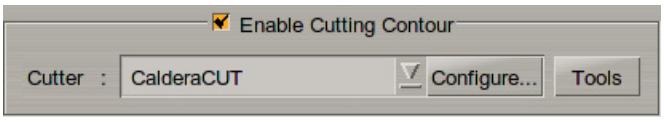
Some cut information have to be prepared in the **Print** module.

Please refer to the complete user manual for the use of the **Print** module.

All parameters are set up on the cutting tab of the *page setup* window.

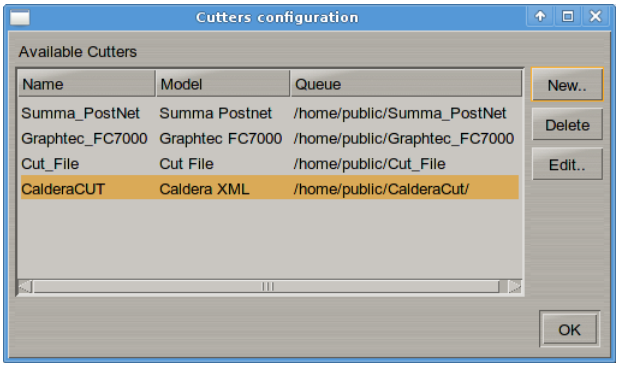


Enable Cutting Contour



If the box Enable Cutting Contour is not checked, no cut can be associated to the job.

- **Cutter**: choice of the job's cutter. Use the arrow to display the menu and pick up the cutter.
- ***Tools***: opens a pop-up where parameters can be changed depending on the cutter model. Be careful: this button is only available for Grand cutters.
- ***Configure...***: updates the cutter list. It opens the following pop-up:



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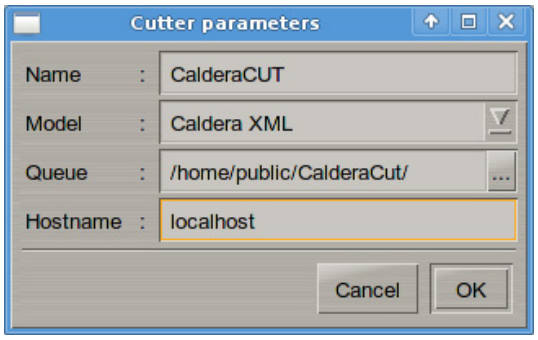
The ***new*** and ***edit...*** buttons opens the cutter parameters pop-up while the ***delete*** button removes the cutter from the list.



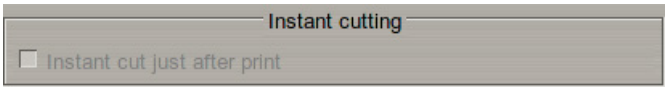
These fields have to be filled to add a cutter:

- **Name** addition as it will appear in the cutter list.
- Choice of the **model** among those supported by Caldera. (The arrow displays the list.)
- **Queue**: display of the path to the directory where the cut files will be created.

When a document is processed through the VisualCUT workflow, a cut job is generated at the end of the print process and sent to a local cutter queue. Each installed cutter has its own cut job queue, available in the corresponding CUT module.

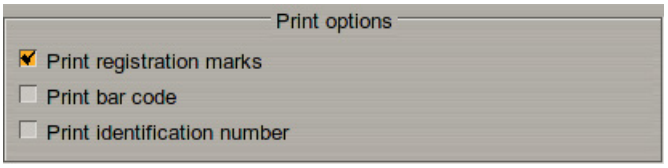
- **Hostname**: the cutter address or network name used on the network to recognize the machine (IP address or *localhost* for example).

Instant cutting



If the printer allows it, this option sends the cut file to the printer so it will do the cut just after the print.

Print options



- *Print registration marks*: *This option is required to cut a printed document.* Specific marks are added on the printed document to allow the positioning of the cutter device.
- *Print bar code*: This option prints a barcode on each edge of the document so the operator can feed the cutter regardless of the orientation of the printed document. Then he has just to scan the barcode in front of him and the barcode scanner will automatically send the proper information to VisualCUT.
- *Print identification number*: This option print the identification number on each edge of the document so the operator can feed the cutter regardless of the print orientation. Then he has just to report the identification number into VisualCUT to find the proper job.

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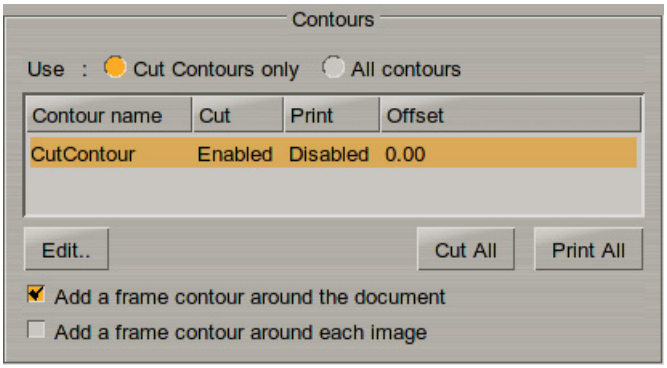
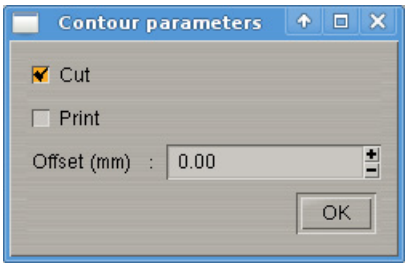
Contours


Contours
Use : Cut Contours only All contours
Contour name Cut Print Offset
CutContour Enabled Disabled 0.00
Edit..
Cut All
Print All
Add a frame contour around the document
Add a frame contour around each image

- **Use**: displays documents: *all contours* or *cut contours only*.
- ***Edit...***: opens the following pop-up that acts on the selected contour:
  - *Cut*: activate or deactivate the creation of the cut file for the selected contour.
  - *Print*: activate or deactivate the contour print.
  - *Offset*: change the cut vector by moving it inside (negative offset) or outside (positive offset) the current cutting path. The values range from -10.00mm to +10.00mm.



Be careful: do offset only for oblong contours. Using others shapes might trigger faults during the cut process.

Offset examples.

Original: 0.00mm offset.

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Maximum offset: +10.00mm.

Minimum offset: -10.00mm.

- ***Cut all*** and ***print all***: activate the cut and the print for all contours. The deactivation of one or the other must be done manually for each contour.
  By default, if the name of the contour begins with CutContour, it will be enable for cutting and disabled for printing.

- **Add a frame around**: add an oblong contour around **each image** and/or around **the** entire **document**. These contours are hidden in the contours list above but will be displayed in the VisualCUT module.

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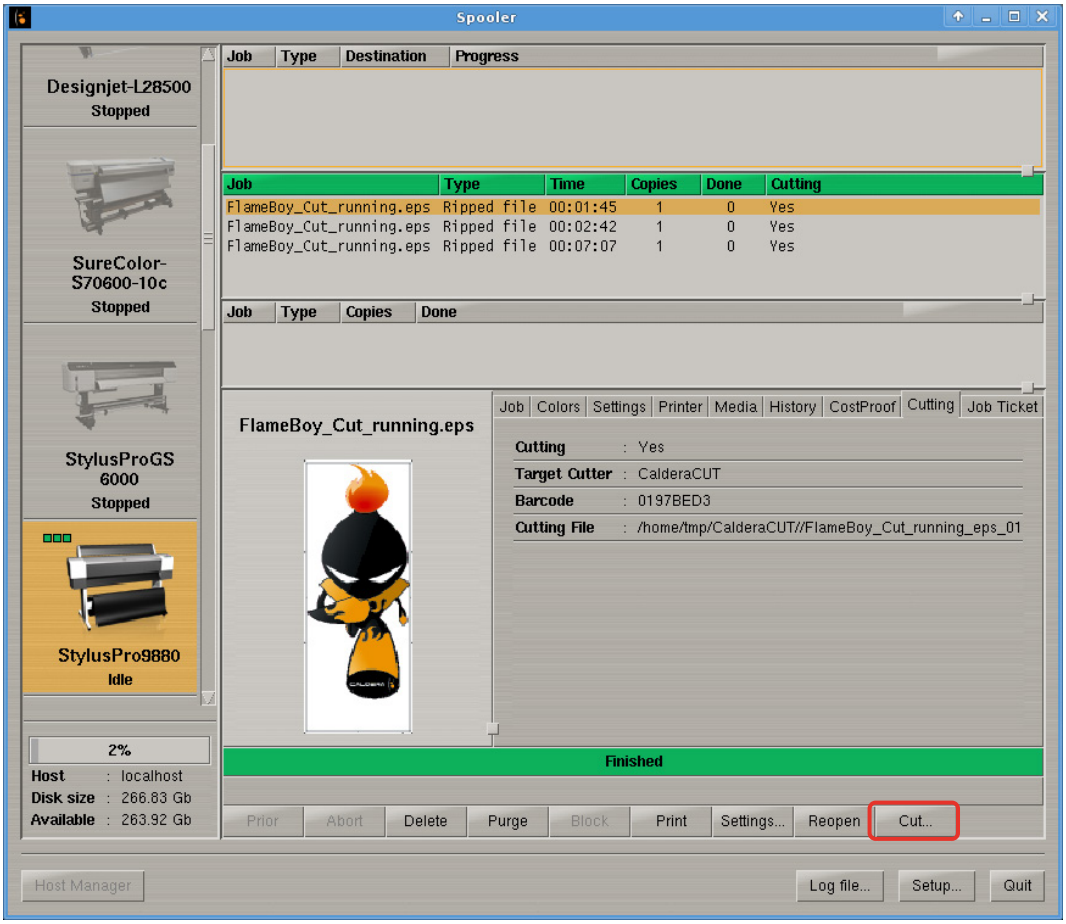
The Spooler

Once all print and cut parameters are correctly set up, the print can be launched. You can see its progression in the Caldera **Spooler**. You can also see, in the Cutting tab all the information about the cut:

- **Cutting**: indicates if the cut is activated or not.
- **Target cutter**: name of the cutter chosen to do the cut.
- **Barcode**: barcode number printed on the document and linked to the job.
- **Cutting file**: path of the cutting file that is automatically created and sent to VisualCUT.

You can then launch the VisualCUT module from the **Spooler** by clicking on the ***Cut...*** button or by double-clicking on the cutter in the Applications list.



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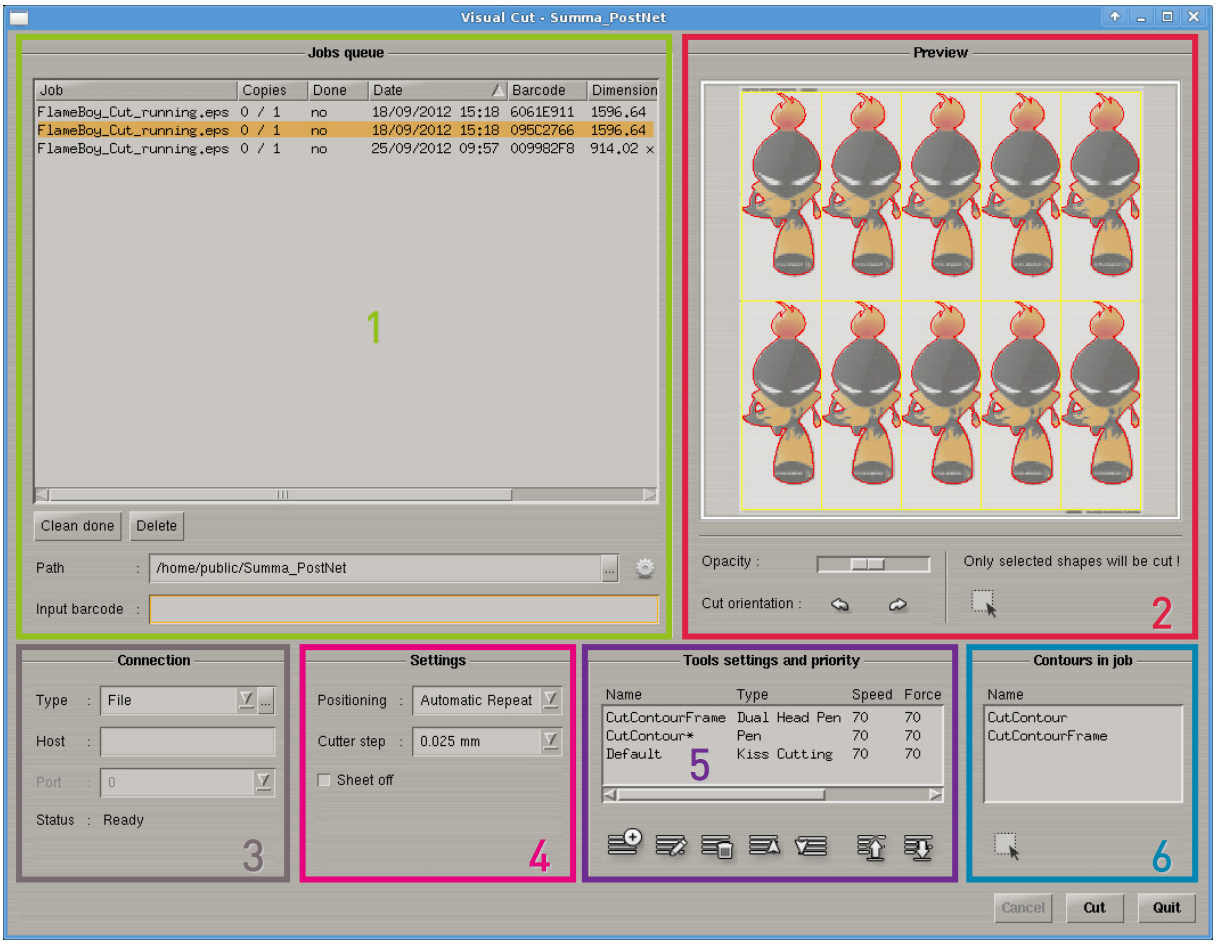
VisualCUT

Overview



The VisualCUT window can be divided into six parts. We will explicit each one of them separately in this second part of the document.

1. Jobs queue.
2. Preview.
3. Connection.
4. Settings.
5. Tools settings and priority.
6. Contours in job.

Besides that, three buttons are available at the window's button:

- *Cancel*: cancel an action on the cutter.

Be careful, if the information has already been sent to the cutter, the action cannot be canceled anymore. This button is principally dedicated to cancel the cut while the cutter is detecting the marks.

- *Cut*: launch the job cut: launch the marks detection then the cut.
- *Quit*: close the window.

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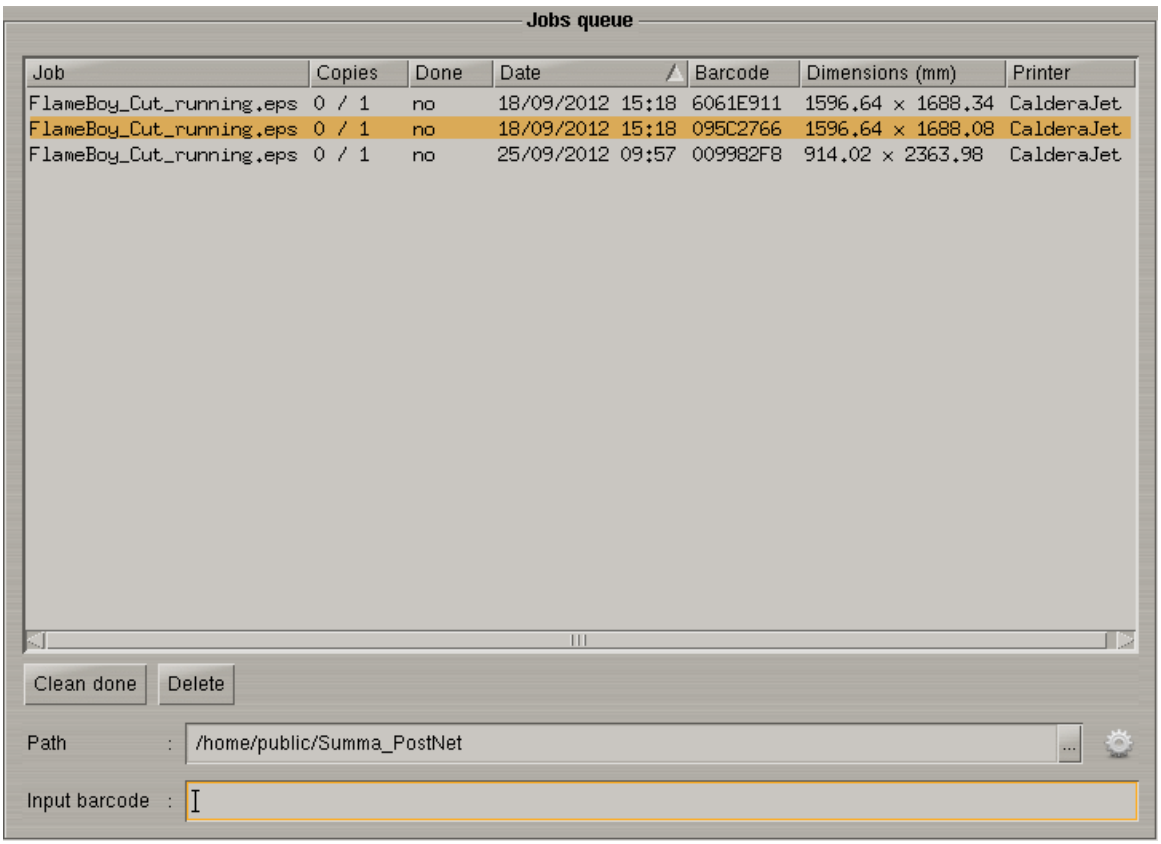
Jobs queue



Cut queue information

Every column is clickable so the jobs can be sorted by:

- **Job**: sort by default, the name of the job determines its place in the queue.
- **Copies**: sort by the number of copies done.

The second number indicates the number of copies attended for the job while the first number indicates the number of copies done. If the first number is superior or equal to the attended copies, the job status moves from *no* to *yes*.

- **Done**: sort by status, it indicates if the cut is over or not.
- **Date**: sort by date.
- **Dimensions**: sort by surface (multiplication of the dimensions displayed in the column).
- **Barcode**: sort by barcode (alphabetical order).
- **Printer**: sort by printer name.

The sort can be upward or downward: the order can be reversed for every sort.

Two buttons are also available to clean the list:

- ***Clean done***: remove all jobs which status is *yes*.
- ***Delete***: remove the selected job from the list.

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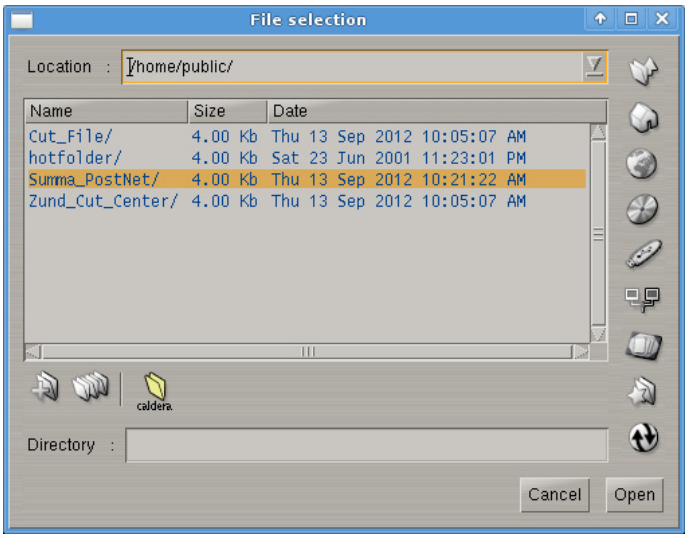
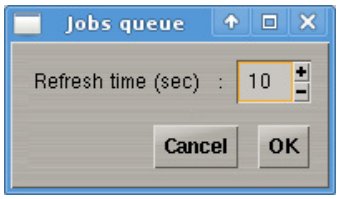
The cut path

The cut **Path** is the location on the computer where the RIP solution will create the cut file after the print. This file contains all contours represented by vectors that will be used by the cutter. The path location is determined when the cutter is added to Caldera (see Enable cutting contour page 5).

The user can change the path where VisualCUT will check for new jobs. The button opens Caldera's file selection tool.



The second button: opens a pop-up that sets the jobs queue **refresh time**.



In our example, every 10 second, the path is scanned by VisualCUT to check if new files have been created. If so, the corresponding jobs are added to the job queue.

Barcode search

When VisualCUT has been launched from the Caldera **Spooler**, the corresponding job is automatically selected in the jobs queue.

A job can also be found by searching its barcode using the **Input barcode** field. The user enters the entire barcode and click on ***Enter***. VisualCUT searches the job in the list and selects it.

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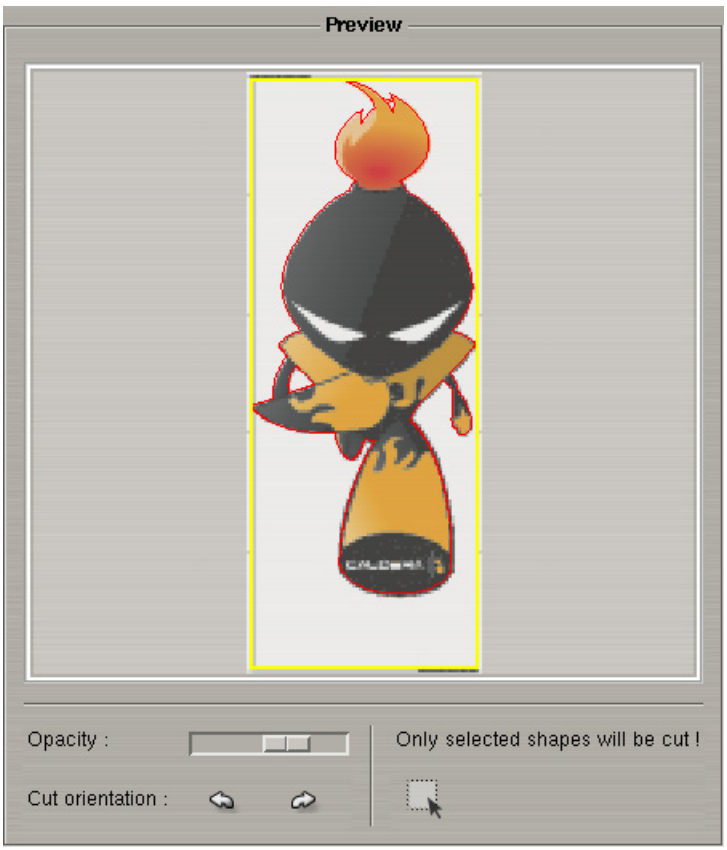
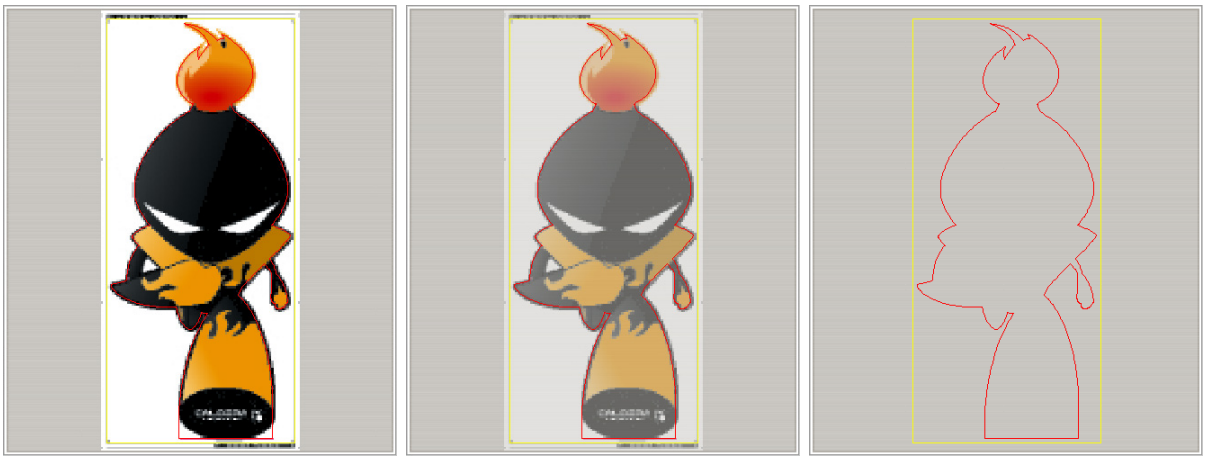
The preview



Here the user can see the jobs contours. The colors used depend on the tools set for each contour type (see Tools settings and priority).
The scroll bar **Opacity** adjusts in the preview the image opacity to stand out the contours.



Several opacities: maximum, medium and minimum.

The two **cut orientation** buttons change the jobs orientation in the cutter. The modification is done with a 90° rotation to the left or the right depending on the arrow direction.

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The three other orientations available for this job.

The following actions belong to Caldera's preview tool. So they can be used in the display or in the printing page set up as well.

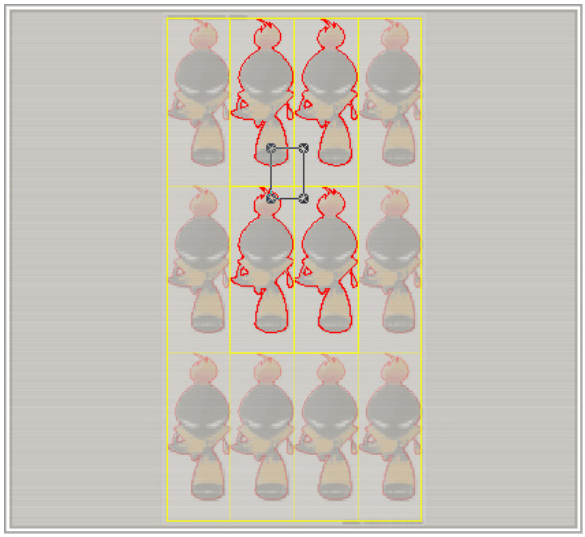
Zoom in, zoom out and *scroll the image*: actions available in every Caldera preview module to move into the preview.

- *Zoom in*: while the Ctrl key is pressed, use the right mouse button or the mouse scroll up to zoom in.
- *Zoom out*: while the Ctrl key is pressed, use the left mouse button or the mouse scroll down to zoom out.
- *Scroll the image*: while the Ctrl key is pressed, keep the mouse scroll as well then move.

Be careful, in opposition to the other preview tools, in this module, you cannot use the Alt + R combination that allows you to reset the preview. To get the default preview again, switch to another job then come back on the current one.

Cut selection

This tool allows the user to select on the image the copies which will be cut.
If the selection frame touches a single part of the copy, its whole contours will be activated.



In our example, only four copies are activated, the ones with the pale contours are not. The global frame is also activated because it is linked to each copy.

The button at the bottom: selects all the job's contours.

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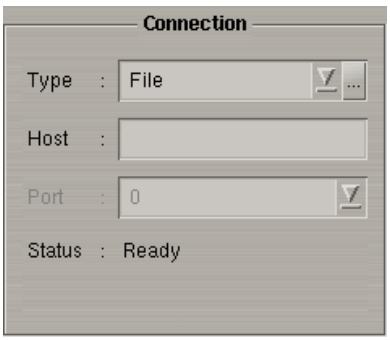
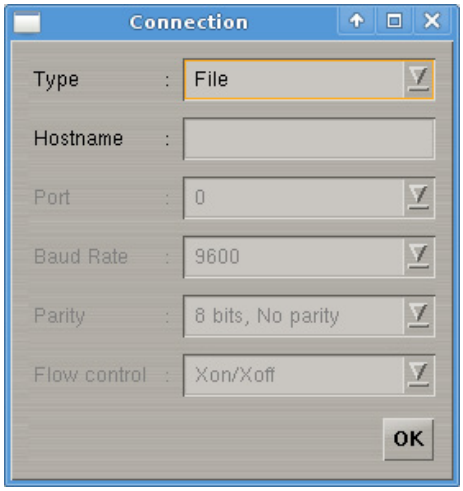
Cutter connection



The connection depends on the cutter type so the **type** has to be set up first.

The ... buttons opens the advanced setup.
Host and **Port** fields report information from the advanced setup.
Status indicates if the cutter is connected and *ready* to be used. The detection is made automatically depending on the connection information that has been set up by the user:



- **Type**: the cutter types available are: *USB*, *Serial*, *RawIP* and *File*.
- **Hostname**: output directory or IP address needed to connect the cutter.
  Host is only used for *RawIP* and *File* cutters, for the two others types fields below have to be filled.

- **Port**: choice of the port used for the connection.
  The fields below are necessary only for *Serial* cutters.

- **Baud Rate**: indication of the connection speed in baud.
- **Parity**: number of bits and type of parity (*odd* or *even* parity).
- **Flow control**: flow control type between: *Xon/Xoff* or *Hardware*.
  Please refer to the cutter user manual if you use a *Serial* one in order to fill the fields as right as possible.

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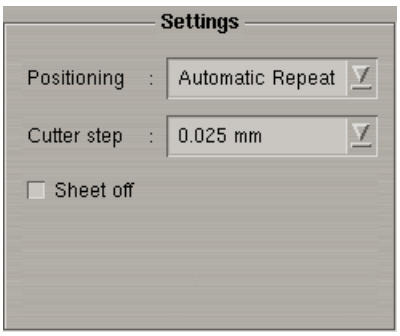
Settings



The settings define the positioning of the cutter. Depending on the model, all types are not available:

- *Single with marks*: (formerly blind cut). The user places the blade on the first mark then launches the cut in VisualCUT. The cutter will detects the marks and then cut.
- *User points marks*: (formerly semi-automatic). The user launches the cut then VisualCUT asks him to place the blade on the medium. After the user validation, marks will be detected and the cut will be done.
- *Automatic repeat/single*: the user launches the cut then the cutter detects the marks and the barcode. It searches the barcode into the jobs queue then, when founded, the cutter launches automatically the cut process.
  The *single* mode does the operation once while the *repeat* mode, after the first job done, try to find a new one on the medium to do all jobs automatically. It stops when a barcode cannot be found on the medium and/or in the jobs queue.
- *Manual*: in this mode the user has to place the blade precisely on the first mark before launching the cut process.
- *None*: this mode is used for colored vinyl where no printed marks appeared on the medium. The user loads the medium in the cutter then launches the cut.

The **cutter step** depends on the cutter model and can be adjusted in this part.
The **sheet off** option tells the cutter to cut the medium at the end of the job. This is used to separate jobs in particular for an *automatic repeat* positioning on a roll.

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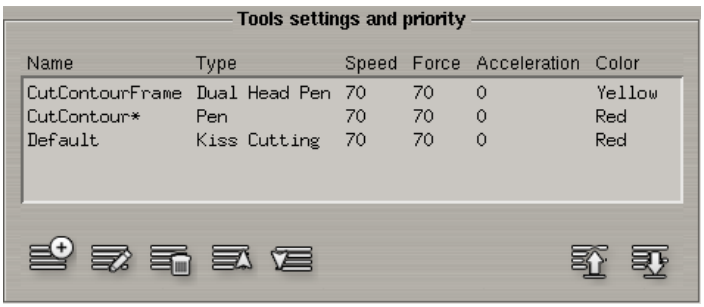
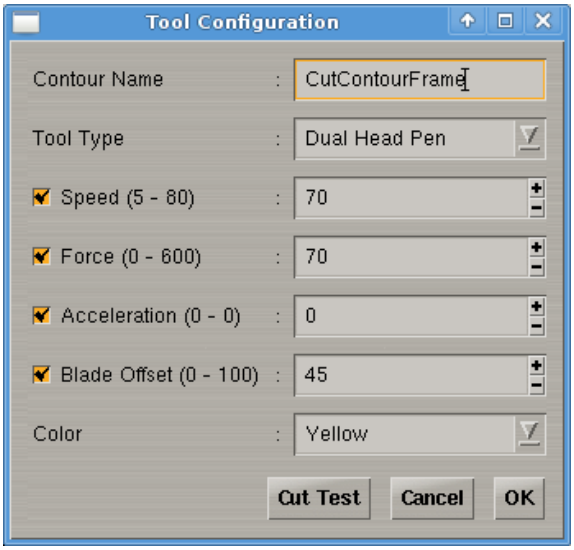
Tools and settings and priority


Tools settings and priority
Name Type Speed Force Acceleration Color
CutContourFrame Dual Head Pen 70 70 0 Yellow
CutContour* Pen 70 70 0 Red
Default Kiss Cutting 70 70 0 Red

The tools determine which cut has to be done for a specific contour type.

Add a cut tool

The button adds a new tool to the list. It opens the pop-up:


Tool Configuration
Contour Name : CutContourFrame
Tool Type : Dual Head Pen
Speed (5 - 80) : 70
Force (0 - 600) : 70
Acceleration (0 - 0) : 0
Blade Offset (0 - 100) : 45
Color : Yellow
Cut Test
Cancel
OK

- **Contour name**: the name has to be related to the names used for contours. Indeed, the name will link the contour to its proper tool.

A star "*" can be added only at the beginning or at the end of the name. The star can then be replaced by any string. Example: "CutContour*" fits for "CutContour", "CutContourFrame" and "CutContourImage".
With the same logic, "*Contour" fits for "Contour" and "CutContour" but not for "CutContourFrame".
Be careful a name like "Cut*Contour" cannot be used, the star can only be place at the beginning or at the end of the string.

The star is used to create generic contours tools.

- **Tool type**: this type is device dependant. Example of tool types:
  - *Kiss cutting*: only the first layer of the medium is cut (for adhesive vinyl for example).
  - *Dotted cutting*
  - Cutting using a *Laser* to simulate the cut path...

Please refer to the cutter user manual to choose the tool type you need. Caldera implements in its cutter driver all tools as specified by the manufacturer.

- **Speed**: the speed range is device dependant. The tool head speed could largely affect the cutting quality.
- **Force**: pressure applied to the tool when cutting, its range is device dependant.
- **Acceleration**: acceleration of the tool head when cutting.
- **Blade Offset**: this option defines a little offset for each beginning and ending of a vector. Leave this parameter with its default value if the offset is not known.

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Please refer to the cutter user manual for each parameter above to choose the best values to use.

- **Color**: the color will be used in the preview to identify the tool.

Cut Test: this button allows to check the current settings by sending a little sample cutting path to the device. A medium has to be loaded before performing this action.

Tools list management

The tools list organization is very important, the tools order will define their cut priority and when two tools fit for the same contour, which one will be used.
Concretely VisualCUT does two operations: the allocation of the contours to the tools and the cut.

Contours allocation

For each contour, VisualCUT tests the tools from the top of the list to the bottom and stops when one can be used for the contour.
So, if a generic tool is above a specific one, the contour will be linked to the generic one and not to the one that is dedicated to it.
The Default tool
Default is used when no other tool can be linked to a contour. Even if *Default* is at the top of the list, the algorithm will test it with the contour at the last place.
About the cutting priority, *Default* is treated like any other tool so its cutting turn depends on its place in the list.
Example:

Tools list	Contours
CutContourFrame	CutContour
Default	CutContour_Dashed
CutContour_Dashed	CutContour_Kissed
CutContour*	CutContourFrame
CutContour_Kissed	MyContour

The contours will be linked to the tools following this:

Tools	Contours linked
CutContourFrame	CutContourFrame
Default	MonContour
CutContourDashed	CutContour_Dashed
CutContour*	CutContour et CutContour_Kissed

We see that CutContour_Kissed is linked to CutContour* (generic) instead of the tool with its name because de specific tool was below in the tools list.

List management

The tools list, in addition to the contour allocation, determines the cutting priority: the first tool of the list will cut first then cuts will be done following the list until the end.
The buttons placed below the list organize it:

- Tool addition (for further information see the previous page)
- Tool edition.
- Tool removal.

Default tool cannot be deleted from the list, to ensure that a contour will always be linked to a tool.

- The tool is moved place to the top.
- The tool is moved one place to the bottom.

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Settings save

The user is allowed to save the current tool list by using the following buttons. When used, the list is saved in a xml file that can be upload at any moment.

- : list upload.
- : list save.

Creating saved lists built a database that can be used in production to quickly switch from one configuration to another. It saves time even when media are different and use others speed, force, etc.

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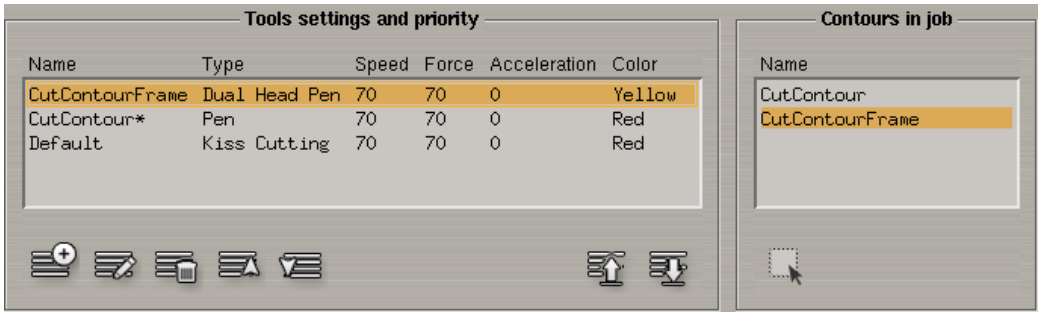
Contours in job

This list displays the contours contained in the job.
The user can decide to launch only a part of the cuttings by selecting the corresponding contours names.
Contours are selected by clicking on them one by one or by pack or using the Ctrl key.

The button below the list deselects all contours.
If no contour is selected, VisualCUT acts as if all contours are selected.

To help the selection, when a tool is selected in the tools list, the contours linked to it are automatically activated.


Tools settings and priority
Name Type Speed Force Acceleration Color
CutContourFrame Dual Head Pen 70 70 0 Yellow
CutContour* Pen 70 70 0 Red
Default Kiss Cutting 70 70 0 Red
Contours in job
Name
CutContour
CutContourFrame

The tool selection automatically activates the contour.

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